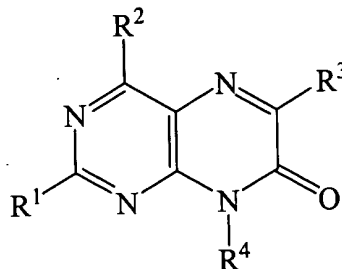


Please amend claims 1-4, 10-12, 18-19, 22 and 29 as follows:

1. (Amended) A compound of the formula:



wherein:

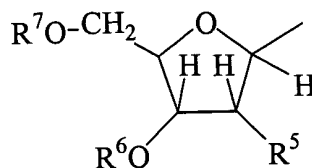
R^1 is a member selected from the group consisting of hydrogen and optionally substituted C_1 - C_6 -alkyl;

R^2 is a member selected from the group consisting of amino and mono- or di-substituted amino wherein the substituent is a protecting group;

R^3 is optionally substituted C_1 - C_6 alkyl;

R^4 is L;

L is of the formula



wherein:

R^5 is hydroxyl;

R^6 is a member selected from the group consisting of hydrogen, phosphoramidite, an H-phosphonate, a methyl phosphonate, a phosphorothioate, a phosphotriester, a hemisuccinate, a hemisuccinate covalently bound to a solid support, a dicyclohexylcarbodiimide, and a dicyclohexylcarbodiimide covalently bound to a solid support, a hydroxyalkyl, and a hydroxyalkyl covalently bound to a solid support; and

R^7 is a member selected from the group consisting of hydrogen, a phosphate, a triphosphate, and a protecting group.

2. (Amended) A compound in accordance with claim 1, wherein R^1 is hydrogen;

R^2 is a member selected from the group consisting of amino, mono-, and di-substituted amino wherein the substituents are members selected from the group consisting of benzoyl, isobutyryl, phthaloyl, di-n-butylaminomethylidene, dimethylaminomethylidene, p-nitrophenylethoxycarbonyl and dimethylaminomethylenamino;

R^4 is L;

R^5 is hydroxyl;

R^6 is a member selected from the group consisting of consisting of hydrogen, phosphoramidite, H-phosphonate, hemisuccinate, and hemisuccinate covalently bound to a solid support; and

R^7 is a member selected from the group consisting of hydrogen, trityl, monomethoxytrityl, dimethoxytrityl, phthaloyl, di-n-butylaminomethylene, dimethylaminomethylidene and triphosphate.

3. (Amended) A compound in accordance with claim 2, wherein R^2 is a member selected from the group consisting of amino and an amino group mono-substituted by a protecting group selected from the group consisting of di-n-butylaminomethylidene, p-nitrophenylethoxycarbonyl, and dimethylaminomethylenamino;

R^5 is hydroxyl;

R^6 is a member selected from the group consisting of hydrogen, β -cyanoethyl-N-diisopropyl phosphoramidite and a hemisuccinate covalently bound to controlled pore glass; and

R^7 is a member selected from the group consisting of dimethoxytrityl, di-n-butylaminomethylene, and dimethylaminomethylidene.

4. (Amended) A compound in accordance with claim 2, wherein R^2 is a member selected from the group consisting of amino and an amino group mono-substituted by a protecting group selected from the group consisting of di-n-butylaminomethylidene, p-nitrophenylethoxycarbonyl, and dimethylaminomethylenamino;

R^5 is hydroxyl;

R^6 is a member selected from the group consisting of hydrogen and β -cyanoethyl-N-diisopropyl phosphoramidite; and

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R^7 is a member selected from the group consisting of hydrogen and dimethoxytrityl.

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10. (Amended) A compound in accordance with claim 1, wherein;
 R^1 is optionally substituted C_1-C_6 alkyl;
 R^2 is a member selected from the group consisting of amino, mono-, and di-substituted amino wherein the substituent is a member selected from the group consisting of benzoyl, isobutyryl, phthaloyl, di-n-butylaminomethylidene, dimethylaminomethylidene, p-nitrophenylethoxycarbonyl and dimethylaminomethylenamino;
 R^3 is optionally substituted C_1-C_6 alkyl;
 R^4 is L;
 R^5 is hydroxyl;
 R^6 is a member selected from the group consisting of hydrogen, H-phosphonate, phosphoramidite, hemisuccinate, and hemisuccinate covalently bound to a solid support; and
 R^7 is a member selected from the group consisting of hydrogen, trityl, monomethoxytrityl, dimethoxytrityl, phthaloyl, di-n-butylaminomethylene, and dimethylaminomethylidene.

11. (Amended) A compound in accordance with claim 10, wherein R^1 is methyl;
 R^2 is a member selected from the group consisting of amino and an amino group mono-substituted by a protecting group selected from the group consisting of di-n-butylaminomethylidene, p-nitrophenylethoxycarbonyl, and dimethylaminomethylenamino;
 R^3 is methyl;
 R^5 is hydroxyl;
 R^6 is a member selected from the group consisting of hydrogen, β -cyanoethyl-N-diisopropyl phosphoramidite and a hemisuccinate covalently bound to controlled pore glass; and
 R^7 is a member selected from the group consisting of dimethoxytrityl, di-n-butylaminomethylene, and dimethylaminomethylidene.

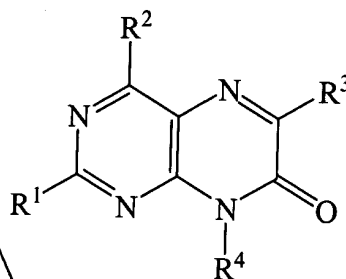
12. (Amended) A compound in accordance claim 10, wherein R¹ is methyl; R² is a member selected from the group consisting of amino and an amino group mono-substituted by a protecting group selected from the group consisting of di-n-butylaminomethylidene, p-nitrophenylethoxycarbonyl, and dimethylaminomethylenamino;

R⁵ is hydroxyl;

R⁶ is a member selected from the group consisting of consisting of hydrogen and β -cyanoethyl-N-diisopropyl phosphoramidite; and

R⁷ is a member selected from the group consisting of hydrogen and dimethoxytrityl.

18. (Amended) An oligonucleotide comprising one or more nucleotide monomers, said monomers having the formula



wherein:

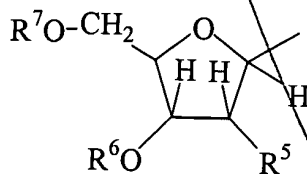
R¹ is a member selected from the group consisting of hydrogen and optionally substituted C₁-C₆-alkyl;

R² is a member selected from the group consisting of amino and mono- or di-substituted amino wherein the substituent is a protecting group;

R³ is optional substituted C₁-C₆ alkyl;

R⁴ is L;

L is of the formula



wherein:

R⁵ is a member selected from the group consisting of hydrogen and hydroxyl;

R⁶ is a member selected from the group consisting of hydrogen, a phosphate, a phosphate covalently attached to a nucleotide, a phosphate covalently attached to a nucleoside; a hemisuccinate covalently bound to a solid support, a dicyclohexylcarbodiimide covalently bound to a solid support, and a hydroxyalkyl covalently bound to a solid support; and

R⁷ is a member selected from the group consisting of hydrogen, a phosphate, a phosphate covalently attached to a nucleotide and a phosphate covalently attached to a nucleoside;

wherein at least one of R⁶ and R⁷ is a phosphate covalently attached to adenosine.

19. (Amended) An oligonucleotide in accordance with claim 18, wherein:

R¹ is hydrogen;

R² is amino;

R³ is methyl;

R⁵ is hydrogen and hydroxyl;

R⁶ is hydrogen; and

R⁷ is a phosphate covalently attached to adenosine.

22. (Amended) An oligonucleotide in accordance with claim 18, wherein:

R¹ is optionally substituted C₁-C₆-alkyl;

R² is amino;

R³ is methyl;

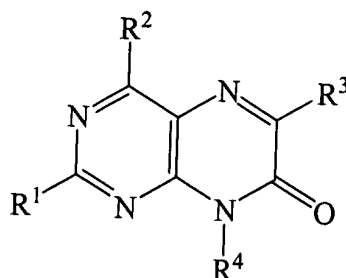
R⁵ is hydrogen and hydroxyl;

R⁶ is hydrogen; and

R⁷ is a phosphate covalently attached to adenosine.

29. (Amended) A method of detecting the presence, absence, or quantity of a target nucleic acid, said method comprising the steps of:

a) contacting said target nucleic acid with a nucleic acid probe wherein said nucleic acid probe comprises compound of the formula:



wherein:

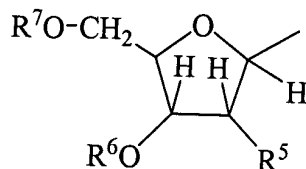
R¹ is a member selected from the group consisting of hydrogen and optionally substituted C₁-C₆-alkyl;

R² is a member selected from the group consisting of amino and mono- or di-substituted amino wherein the substituent is a protecting group;

R³ is optionally substituted C₁-C₆ alkyl;

R⁴ is L;

L is of the formula



wherein:

R⁵ is a member selected from the group consisting of hydrogen and hydroxyl;

R⁶ is a member selected from the group consisting of hydrogen, phosphoramidite, an H-phosphonate, a methyl phosphonate, a phosphorothioate, a phosphotriester, a hemisuccinate, a hemisuccinate covalently bound to a solid support, a dicyclohexylcarbodiimide, and a dicyclohexylcarbodiimide covalently bound to a solid support; and

R⁷ is a member selected from the group consisting of a phosphate covalently attached to a nucleotide and a phosphate covalently attached to a nucleoside;

wherein, at least one of R⁶ and R⁷ is a phosphate covalently attached to adenosine;

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